DEPARTMENT OF
SCIENTIFIC AND INDUSTRIAL RESEARCH
ROAD RESEARCH LABORATORY

Road Research Technical Paper No. 49

Road Accidents–Christmas 1959

An investigation of the fatal road accidents
in England and Wales
December 24th—27th, 1959

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FOREWORD

THE FIGURES of deaths on the road during the Christmas holiday period, 1959, were disquieting. They attracted much attention in Parliament and in the press, and the Road Research Laboratory was asked by the Minister of Transport to investigate the fatal accidents which occurred during the period.

This paper records the results of this investigation. The Laboratory is indebted to the Ministry of Transport, the Home Office, the police officers concerned, and to the coroners, without whose invaluable help this investigation could not have been made.

W. H. GLANVILLE,
Director of Road Research

ROAD RESEARCH LABORATORY
June, 1960

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Road Accidents—Christmas 1959

An investigation of the fatal road accidents in England and Wales December 24th—27th, 1959

INTRODUCTION

Because a large number of fatal accidents occurred on the roads of England and Wales during the Christmas period 1959, the Road Research Laboratory was asked by the Minister of Transport to investigate the accidents that occurred during the four days December 24th–27th.

To carry out this investigation nearly every police force in which one or more of these fatal accidents occurred was visited by an officer of the Road Research Laboratory and in some cases it was possible for the details of the accident to be discussed with the member of the police force who was in charge of the case or cases concerned. A few police forces sent all the available information to the Laboratory and in these cases the stations were not visited. Some of the coroners who held the inquests were consulted and all the coroners' inquest reports have been studied.

The investigation has been confined to the study of the police reports of the accidents, of the coroners' reports of the inquests, of the pathologists' reports of the post mortems where available, and also, in a few cases, to the study of the reports of the proceedings that were taken by the police against one or more of the people concerned. In addition, a few of the sites of the accidents were visited, but in most cases this was not thought to be essential, partly because the police supplied plans and photographs of many of the sites. For some accidents, photographs of some of the vehicles that were damaged in the accidents were also available.

The particular sample of accidents studied in this paper would not be very suitable for a general investigation into the causation of accidents and no attempt at such a study has been made. This is better carried out by investigations of other types such as the on-the-spot studies now being made, in which the Laboratory sends a team to investigate the accidents in its neighbourhood as they occur. Analyses of general police statistics of accidents are also very useful in this connexion. The sole purpose of the investigation, the results of which are given in this paper, was to find possible reasons for the excessive number of fatal accidents that took place during the Christmas period of 1959.

THE NUMBER OF ROAD ACCIDENTS

Summary analyses of the information obtained are given in Tables 1–15. There were 150 fatal road accidents involving 161 fatalities during the period December 24th–27th, the numbers of fatalities being 69, 37, 31 and 24 on December 24th, 25th, 26th, 27th respectively* (Table 1).

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* In accordance with international convention, only those people who died within 30 days of the accident are said to have been killed in the road accident.

The average number of fatalities per day in 1959 in England and Wales was 16·2. In December, 1959, excluding December 24th–27th, the average number per day was 24·0. Hence, although the number of road fatalities on December 24th and 25th was high the numbers 31 and 24 on December 26th, 27th do not appear at first sight to be outstanding, when compared with other December days, although Sunday figures for fatalities in December are usually relatively low.

The figure of 69 fatalities on December 24th is, relative to other December days, significantly large. In Great Britain* in 1958 there were only 2 days with more than 37 fatalities—January 1st with 41 and December 24th with 38. The numbers of days in Great Britain with various numbers of fatalities per day in 1959 are not yet available but the numbers for 1958 are given in Fig. 1 and the actual days on which there were more than 30 fatalities are given in Table 2. Figure 1 shows the rarity of large numbers of fatalities on any one day, and Table 2 shows that almost all the days with large numbers of fatalities are special for one reason or another, i.e. Christmas Eve, New Year's Day, Fridays or Saturdays. This point will be referred to again later. To complete the picture a comparison with previous years is given in Table 3.

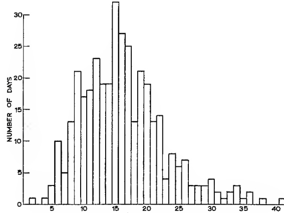

Fig. 1. Fatalities per day (Great Britain) 1958

It is desirable to know whether the large numbers of accidents occurring in the period December 24th–27th, 1959 are associated with large amounts of traffic and the amount of traffic on these days will therefore now be considered.

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* All numbers given in the text, tables and figures, refer to England and Wales, not Great Britain, unless otherwise stated.

THE AMOUNT OF TRAFFIC

Since 1957, the Laboratory has arranged for traffic counts to be made automatically at 50 points on the roads of Great Britain, selected so as to give a representative picture of the traffic trends in the country as a whole. The numbers of vehicles passing these 50 points on the various days of the Christmas period have been divided by the average traffic per day over the year 1959 and the results are given in Table 4. The results give an estimate of the miles travelled by motor vehicles on the various days of Christmas, relative to the miles travelled on other days of the year.

THE ACCIDENT RATES

The accident frequencies on the various days of the Christmas period have been divided by the average number of accidents per day and compared with the traffic figures in Table 4. The results shown in Table 5 give a measure of the accident rates on the four days in question compared with the accident rate on the average day in December, 1959 (excluding December 24th–27th), and also compared with the average day in the whole of 1959. Table 5 shows that the numbers of fatalities per mile travelled on these days were 2·6, 2·4, 1·6 and 1·3 times as high as on other days in December. The December rate itself was higher than that for the rest of the year. The table also shows that the numbers of fatalities per mile travelled on the four Christmas days were 4·3, 4·0, 2·7 and 2·2 times as high as on the average of other days during the year.

The fatality rate during Christmas 1959 was not only high when compared with other days of December 1959 or of the year as a whole; it was also high when compared with previous Christmases. Thus the relative numbers of fatalities per mile travelled during the four days of the Christmas period—taking 1956 as unity—were 0·82 in 1957, 0·80 in 1958 and 1·29 in 1959.

It appears then that the numbers of fatalities during the Christmas period December 24th–27th, and especially on December 24th and December 25th, were exceptionally high when compared with previous years and also when compared with other days in December 1959 and warrants a special investigation.

PERSONS KILLED

Table 1 shows the fatalities by class of road user. The number of pedestrians killed during the four days considered, 81 out of 161 (i.e. 50 per cent), forms a higher proportion of the total killed than that for the year 1959 for Great Britain as a whole (39 per cent), but is not significantly different from the proportion for other December 1959 days (48 per cent). There were relatively few child pedestrians killed (3) during the four day period and no child cyclists or passengers. The number of pedestrian fatalities over 60 years of age amounted to 47 per cent of the total pedestrians killed. Of the 66 pedestrians who were killed between 10 p.m. and 4 a.m., 29 were over 60 years of age.

LAWBREAKERS

When analysing a series of accident reports, it is never possible to obtain sufficient details to reconstruct all aspects of the accidents. All that is possible is to obtain those facts for which certain kinds of evidence are available. It is consequently not possible to obtain either all the factors that were relevant to the accident or all the cases in which someone involved* in the accident had broken the law. However, evidence is available in some cases and this is summarized below.

A number of people involved in the accidents were breaking the law. There were six learner drivers, four in cars and two in vans, involved in the accidents who were unaccompanied by an experienced driver. Some of these had no L plates on the vehicle, one had never had a licence of any kind and one had only an expired L licence. One car driver's licence had expired. One of these drivers and two other drivers were in stolen vehicles. One car driver was being pursued by the police for not stopping after a previous damage-only accident. Two learner motorcyclists had no licence and one of them was on a stolen motorcycle (six learner motorcyclists were involved in the accidents—two with a pillion passenger). Eight vehicles did not stop after the accident and three of the drivers were not traced.

There were 16 drivers who were thought by witnesses to be going too fast.

Police proceedings were taken against at least 26 drivers with a total of 42 charges. Convictions were obtained against 18 of them on a total of 23 charges. These charges were one or more of the following: causing death by dangerous driving, reckless or dangerous driving, driving under the influence of drink, careless driving, and neglect of regulations governing pedestrian crossings. But there may have been additional charges, not recorded in the reports examined, for driving without a licence, failing to stop after or to report an accident, and failing to insure against third party risks.

A list of some of the other factors which were mentioned in the accident reports is given in Table 6.

THE PLACES WHERE THE ACCIDENTS OCCURRED

Of the 150 accidents, 105 occurred on roads with speed limits. This proportion, 70 per cent, is rather higher than the average for the year, but not very different from the average for December. One of the accidents occurred on a zebra crossing, one on or very near such a crossing, 2 at roundabouts, 4 on dual carriageways, 1 at a light-controlled crossroads, 18 at other crossroads, 5 at Y-junctions, 34 at or near T-junctions, 5 on hills and 5 on slight hills, 14 on bends and 5 on slight bends. The relative numbers of accidents at these places are about normal.

CONDITION OF VEHICLES

The number of vehicles in the accidents which were in poor condition is not known, because many of them were so badly damaged that tests on brakes, steering, lights etc., could not be made, but in eight cases (out of the 210 vehicles involved) there were reports that the vehicles were defective in some respect. This proportion of vehicles found to be defective is not unusual for fatal accidents.

WEATHER AND LIGHT CONDITIONS

The weather conditions seem to have been unusually bad in some parts of the country. There was strong wind (gale force in some places) and heavy rain on the evening of December 24th. People with umbrellas up or heads bent down, or with heads covered, were involved in some of the accidents. A tree fell on one vehicle. The roads were said to be icy (some with 'black'* ice) on the early morning of December 24th. The nights were said to be very dark so that elderly pedestrians, sometimes in dark clothes, sometimes in unlit streets, were said not to have been seen by the drivers of moving vehicles in time for the drivers to take avoiding action. On numerous occasions vehicles were said to be showing side lights only and it is possible that the elderly pedestrian did not see the moving vehicle with such lights. After a certain hour, usually midnight, many of the lit roads had the lamps lit on alternate standards only, sometimes giving black patches or shadows on the road. The pedestrians were sometimes said to be difficult to see because of these shadows. Fatalities in Great Britain in December and January are given in Table 7; the figures show that the ratio of fatalities in the dark hours to those in daylight during those two months is usually about 1·7 to 1. The corresponding ratio for December 24th–27th would naturally be slightly greater because of the longer period of darkness, but the figure of 4·2 for the Christmas period (Table 7) is greater than would be expected.

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* A person involved in the accident is one who is a driver or rider of any of the vehicles which collide, or run off the road, etc., or any other person who was injured in the accident.

The road and light conditions for the accidents under consideration are given in Tables 8 and 9. Of the 150 accidents, 109 (i.e. 73 per cent) occurred in the dark and when the road was wet. It is noteworthy that there was a new moon on December 29th, so that there would have been little moon to help on December 24th–27th.

Accidents, especially pedestrian accidents, increase in wet weather, and especially on wet nights.(1) For example, it has been shown(2) that pedestrian accidents on wet nights were 2·3 times the average of those on dry nights. It might therefore be expected that the dark wet nights of the Christmas period would contribute materially to the abnormal number of accidents.

It is perhaps worth mentioning that 6 of the 16 days of 1958 shown in Table 2, in which accident frequencies were very much higher than normal, had a high proportion of accidents—an average of 62 per cent—on dark wet nights.

CRASH HELMETS

Of the 21 motorcyclists and pillion passengers who were killed, seven were wearing crash helmets and seven were not; the information was not recorded for the seven others. These proportions are about normal.

TIME OF DAY

The numbers of fatalities during each hourly period during the 4 days combined are given in Fig. 2. The general trend was for accidents to have a peak from about 10 p.m. to 1 a.m., with a smaller peak in the afternoon. The casualty figures show the same general trends, but with the mid-afternoon peaks more pronounced on all days. The stories of the accidents show that some of the pedestrians who were killed and some of the drivers involved in either pedestrian or other accidents were on the way to or from midnight services. It has been suggested that there has been a tendency during the last few years for the custom of attending midnight services to spread, resulting in large numbers of people being on the roads in the late evening of December 24th and early morning of December 25th. No data to confirm this suggestion are available.

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* 'Black' ice is a thin coating of very slippery ice which is not very visible.

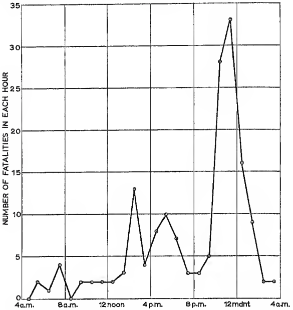

FIG. 2. Fatalities during each hour, December 24th—27th, 1959 (England and Wales)

ALCOHOL

The police, both orally and in their written reports, gave evidence that shows that an alcoholic beverage had been drunk by one or more of those involved in many of the accidents. There is evidence in some of the records of the alleged actual amounts of alcoholic drink of various kinds which had been drunk, or of the alcoholic condition of the people involved, as assessed by police or pathologists or witnesses, but neither the amounts of alcohol consumed nor the blood alcohol content are given in the records of many of the accidents, even when the driver was charged with driving a motor vehicle on a road while under the influence of drink. In some of the cases where a person involved had just left a public house the amount of alcohol consumed is not stated and cannot, from the evidence available, be assessed. There are, in addition, many accidents the reports of which contain no explicit mention of alcohol being consumed, although the circumstances suggest otherwise: for example, a person seen staggering to his car on leaving a club might reasonably be suspected of having drunk alcohol. Suspicions have, however, been ignored in this paper and only definite evidence has been used as a basis for the analyses.

There are several other omissions from the reports which make it difficult to give a reliable assessment of the number of people who had been drinking or the amount drunk. For example, pathologists' reports usually make no reference to alcohol, neither as regards smell nor blood content, even in some cases where other evidence gives large consumption of alcohol. An analysis of the alcohol content of the blood or urine appears to be made by the pathologist usually only where specially requested. The pathologist is so often concerned with the cause of death, not with the cause of the accident.

Although coroners may ask questions, witnesses need not answer any that might involve them in criminal proceedings. The coroner's task is to establish the cause of death (i.e. whether it results from accident, manslaughter or murder); he is not concerned with establishing guilt. Hence it is not usual for a driver to volunteer evidence as to where he had been before the accident occurred. If a pedestrian who is involved in a fatal accident has been drinking, this fact is usually disclosed because he is usually the person killed and relatives or witnesses are asked for information about where the deceased had been. If a driver is killed there is usually equally good evidence about his actions before the accident, but if he is not killed this is not so. Witnesses are sometimes friends of the people involved and may therefore tend to minimize any amount of alcohol consumed, knowing what the consequence might be to the drivers. Hence the summary analyses given in this paper of the investigation may be roughly true as regards pedestrians who had been drinking alcohol, but may underestimate, perhaps considerably, the number of drivers who had been drinking or the amount they had drunk.

Some of the references to alcohol given in the accident reports are summarized in the Appendix. The accidents referred to in this Appendix will for brevity, in this paper, be called 'drink' accidents. In some of the accidents the amount stated by witnesses to have been drunk appears to be small, but the full story often gives the impression of much more than the stated amount having been drunk. References are made in the reports to the fact that many firms had parties on the morning or afternoon of December 24th and some on the evening of December 23rd. One police force stated that the increase in drunken ness on the evenings of December 23rd and December 24th was pronounced and that numerous complaints had been made by the public to the police of the disturbances caused by this drunkenness.

The phrase "had been drinking" refers to drinking alcohol not long before the accident occurred. The accidents have been classified on the basis of whether a driver, motorcyclist, pedal cyclist or pedestrian involved in the accident had been mentioned as having drunk alcohol within a few hours of the accident. The amount said to have been drunk varies from ½ pint to 8 or more pints of beer or the equivalent. It is important to realize that, although it is fairly certain that at least one of the persons involved had been drinking in all the so-called 'drink' accidents, it is by no means certain that none of the persons involved in the 'non-drink' accidents had been drinking.

An accident referred to as a 'drink' accident is not necessarily one in which 'drink' was the cause of the accident.

The number of passengers involved in the accidents who had been drinking alcohol has not been noted in this paper as it was considered not to be evidence of accident causation, although there may have been cases where the alcoholic condition of a passenger may have affected the driver.

Some features of the 'drink' accidents are given in Tables 10–15.

It appears that in 84 of the 150 accidents, involving 90 fatalities, someone is known to have been drinking, i.e. 90 of the 161 fatalities (i.e. 56 per cent) occurred in accidents in which someone had been drinking (Table 10). The proportion of 'drink' accidents after 10 p.m. is higher than this (see Table 11); in accidents that occurred between 10 p.m. and 4 a.m. 64 out of 81 (i.e. 80 per cent) were 'drink' accidents.

One-third of the drivers involved (52 out of 169) and more than half the pedestrians killed (44 out of 81) during all hours (day and night) had been drinking not long before the accident occurred (Table 12). The driver had been drinking in accidents in which 18 pedestrians, 4 motorcyclists, 2 pedal cyclists and 1 motorcycle passenger and 16 other passengers were killed. (In some of these the victim had also been drinking.) The proportion of pedestrians killed who had been drinking was much lower for those over 60 than for the younger age groups (see Table 14).

A comparison of the 'drink' accidents occurring in the Christmas period 1959 with a previous analysis[(3)], published by the Road Research Laboratory, of 'drink' accidents in three police districts occurring in periods of up to three years is given in Table 15.

The percentage of 'drink' accidents in the Christmas period is clearly much higher than the normal: in a normal period 14 per cent of the fatal accidents involved drivers who are known to have been drinking; the corresponding figure for the Christmas period 1959 was 36 per cent. In a normal period 13 per cent of the pedestrian fatalities had been drinking; the corresponding figure for the Christmas period was 54 per cent. Altogether someone involved is known to have been drinking in 18 per cent of the fatal accidents in a normal period but in 56 per cent of the fatal accidents in the Christmas 1959 period. A small part of this apparent increase is due to the fact that rather more information about the accidents was obtained for the Christmas 1959 period but the effect of this cannot be large and it seems reasonable to conclude that in the Christmas period 1959 drink had been consumed by at least one of the people involved in about three times the normal proportion of accidents.

ACCIDENT CAUSATION

The concept of 'cause' of an accident is a difficult one and some aspects of it were discussed in two Laboratory publications.[(2), (4)] The matter may be illustrated by a hypothetical example. A man, having drunk six double whiskies, drives—apparently normally—fast on a dark slippery wet road and his car hits a pedestrian who is crossing the road. The accident might have been avoided if the driver had drunk less whisky—his vision might have been better, his reactions quicker and his judgment sounder. It might also have been avoided if he had been driving more slowly, if the road had been lit or if the road had been less slippery or if the pedestrian had realized that a fast vehicle was approaching and might not be able to stop in time to avoid him. Any or all of these factors might be said to have caused the accident and accidents would be less frequent if steps could be taken to reduce the possibility of their occurrence. It is therefore not always possible to assign a single cause to each accident and it is not possible to attribute x per cent of accidents to one cause, y per cent to another, z per cent to a third, etc., with $x + y + z$, etc. adding up to 100.

SOME COMMON FACTORS UNDERLYING THE CHRISTMAS ACCIDENTS

The reason for the investigation described in this paper is the unusually high accident rate during the Christmas period. It is therefore of special importance to seek any factors involved in the accidents during the period that are unusual.

Some of the noticeable features of the Christmas accidents have been described in this paper and include the following:

(i) The proportion of child fatalities was abnormally small.
(ii) The proportion of pedestrian fatalities who were over 60 years of age was high when compared with figures for the year as a whole.
(iii) The number of pedestrians killed during the Christmas period formed a higher proportion of the total pedestrians killed than for the year as a whole, but not higher than for the remainder of December or for a normal December.
(iv) The proportion of the fatal accidents that occurred on roads with a speed limit was rather higher than normal.
(v) The proportion of the accidents in which the police reported vehicle defects was normal.
(vi) The proportion of motorcyclists and passengers killed who were wearing crash helmets was normal.
(vii) Although, of the vehicles involved in accidents, the proportion that skidded on wet roads was not unusual, the proportion of accidents occurring on wet roads was high. The weather was unusually bad.
(viii) The proportion of accidents occurring during darkness was abnormally high when compared with either January or December of any of the last four years. The proportion of accidents occurring when it was dark and wet was particularly high.
(ix) The number of accidents in which someone is known to have been drinking alcohol was abnormally high when compared with the number recorded in a previous investigation into fatal accidents occurring over a long period.

CONCLUSIONS

The investigation has shown that the accident rate over the Christmas period was abnormally high.

Factors associated with the accidents have been investigated. Many of them occurred in the proportions normally found in accidents and so do not help to explain the abnormal number of accidents in the Christmas period.

Two of the factors were, however, unusual. The weather was bad and the proportion of people involved in the accidents who were known to have been drinking was unusually high.

An abnormally high proportion of the accidents (109 out of 150) occurred when it was wet and dark. A further seven occurred on icy roads. Since it is known that the accident rate at night is much higher on wet roads than on dry roads, it is to be expected that the wet nights over the Christmas period were a contributory factor to the abnormal number of accidents in this period. The icy roads and the wet conditions in daylight would also be expected to increase the accident rate. These adverse conditions, however, are not sufficient in themselves to account for the high accident rate that occurred.

No evidence is available to show whether a large number of pedestrians were out at night on Christmas Eve when compared with other nights but this may have been the case and may have contributed to the increase in accidents.

In addition, in a high proportion of cases, at least 56 per cent of the total, one or more of the persons involved had been drinking alcohol in some form not long before the accident occurred. In a normal period the corresponding figure is 18 per cent. The proportion of accidents in which one or more of the road users concerned are known to have been drinking some form of alcoholic beverage was thus much higher than normal. Previous investigations have shown that skill in performing tasks resembling driving is affected by alcohol (5), (6) and that accident risk is increased by drinking alcohol. (7), (8)

It seems reasonable to conclude that the bad weather of the Christmas period made travelling conditions difficult. The fact that many of the people involved in the accidents had been drinking beverages containing alcohol would be expected—in the light of previous research—to have made many of them less able than usual to deal adequately with the difficult conditions.

There may have been other factors involved but the combination of these two alone might account for the high accident rate over the period.

SUMMARY

An investigation has been made of the fatal road accidents that occurred during the Christmas period, December 24th–27th, 1959, in England and Wales.

The number of fatalities that occurred on December 24th was outstandingly large, and the number of fatalities per mile travelled by motor vehicles was high on each of the four days when compared with other days in December or with the year as a whole.

The evidence suggests that most of the factors usually associated with road accidents (such as vehicle defects, crossroads, vehicles skidding on wet roads, etc.) were present in these accidents but in the normal proportions.

There are, however, two factors that stand out—the weather and the evidence of drink.

The weather conditions were bad. The road was dry for only 10 per cent of the accidents; in 73 per cent it was dark and wet, in 12 per cent it was daylight and wet, in 5 per cent it was icy. This weather would be expected to result in increased accident frequency but not to the extent that occurred.

In addition, in a high proportion of cases, at least 56 per cent of the total, one or more of the persons involved had been drinking alcohol in some form not long before the accident. In a normal period, the corresponding figure is 18 per cent.

It seems reasonable to conclude that the bad weather of the Christmas period made travelling conditions difficult. The fact that many of the people involved in the accidents had been drinking beverages containing alcohol would be expected—in the light of previous research—to have made many of them less able than usual to deal adequately with the difficult conditions. Although other factors may have been involved the combination of these two alone might account for the high accident rate over the period.

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Table 1

Road accidents, England and Wales, December 24th–27th, 1959

	Dec. 24	Dec. 25	Dec. 26	Dec. 27	Dec. 24–27
Number of fatal accidents	62	36	29	23	150
Number of fatalities	69	37	31	24	161

Fatalities by class of road user

Pedestrians (Adult)	78
(Child, ages 0, 2, 14)	3
Pedal cyclists	7
Motorcyclists	15
Motorcycle passengers	8
Drivers	22
Other passengers	28
	161
Number of accidents on roads with speed limit	105
Number of accidents on roads without speed limit	45

Table 2

Fatalities in Great Britain 1958

Days on which there were 30 or more fatalities

Date	*Number of fatalities*
Wed. January 1st	41
Fri. January 10th	30
Sat. July 5th	36
Sat. July 19th	30
Sat. July 26th	31
Sat. August 30th	33
Sat. September 6th	30
Sat. October 18th	34
Fri. October 31st	32
Sat. November 1st	36
Sat. November 8th	31
Thur. December 11th	33
Fri. December 12th	34
Thur. December 18th	34
Fri. December 19th	35
Wed. December 24th	38

Table 3

Fatalities, December 24th–27th, 1956–1959

Date	Year			
	1956	1957	1958	1959
December 24th	Mon. 36	Tues. 37	Wed. 38	Thur. 69
December 25th	Tues. 15	Wed. 16	Thur. 17	Fri. 37
December 26th	Wed. 10	Thur. 18	Fri. 18	Sat. 31
December 27th	Thur. 6	Fri. 15	Sat. 25	Sun. 24
Total	67	86	98	161

Table 4

Traffic indices (Great Britain)

	Traffic in Christmas period as percentage of	
	Average day in 1959	Average day in December 1959 (excluding Dec. 24th–27th)
December 24th	98	110
December 25th	57	64
December 26th	71	80
December 27th	68	76

Table 5
Relative accident rates

	Accident rates, Dec. 24th–27th, 1959			
	Compared with the average December day in 1959 (excluding Dec. 24th–27th)			Compared with average day in 1959
	Relative traffic	Relative number of fatalities	Relative fatality rates	Relative fatality rates
December 24th	1·10	$\frac{69}{24} = 2{\cdot}88$	2·6	4·3
December 25th	0·64	$\frac{37}{24} = 1{\cdot}54$	2·4	4·0
December 26th	0·80	$\frac{31}{24} = 1{\cdot}29$	1·6	2·7
December 27th	0·76	$\frac{24}{24} = 1{\cdot}0$	1·3	2·2

Table 6
Factors (other than alcohol) mentioned in the accounts of the accidents*

Road user		
L drivers (unaccompanied)—4 cars, and 2 vans	6	
L riders (2 with no licence; 2 with pillion passenger)	6	
Driver fatigue	2	
Drivers or riders of stolen vehicles	4	
Physical disabilities (hearing, eyesight, blackouts, heart, etc.)	13	
Pedestrians wearing dark clothes at night:		
(i) in roads with street lighting	8	
(ii) in roads without street lighting	3	
Car turning right hit by motorcycle	4	
Pedestrian using umbrella	3	
Pedestrian had head covered with shawl or coat	3	
Pedestrian came from behind stationary vehicle	6	
Carry parcels which may have been awkward	2	
Speed too fast in relation to visibility	16	
Not wearing crash helmet	7	
Vehicle		
Vehicle defects in brakes, tyres, steering, or general condition, etc.	8	8 vehicles
Vehicle defects in lighting	4	
Road		
Street lighting poor or inadequate (in many cases only half lighting)	17	
Icy road, on roads with street lighting	3	
Icy road, on roads without street lighting	4	
Road greasy	2	
Road narrowed suddenly	1	
Narrow footpath	3	
Weather		
Strong wind, gales, heavy rain	11	
Fog	1	
Others		
Skidded on wet road	25	
Skidded on icy road	7	
Falling tree	1	
Stray animal	1	

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* It is not suggested that these factors caused the accident. They are mentioned because they were stated in the evidence.

Table 7

(a) *Fatalities by light conditions*

Great Britain

	Daylight	Dark	Dark/Daylight
December 1959 (excluding December 24th–27th for England and Wales)	224	507	2·3
Decemher 1958	243	453	1·9
December 1957	207	452	1·2
Decemher 1956	160	332	2·1
January 1960	196	311	1·6
January 1959	188	193	1·0
January 1958	182	288	1·6
January 1957	150	264	1·8
January 1956	178	287	1·6

(b) *Fatal accidents by light conditions December 24th–27th*, 1959

Date	Daylight	Dark	Total	Dark/Daylight
December 24th	13	49	62	3·8
December 25th	11	25	36	2·3
December 26th	4	25	29	6·3
December 27th	1	22	23	22·0
Total	29	121	150	4·2

Table 8

Vehicles said to have skidded

Vehicles said to have skidded	Road condition		
	Wet	Dry	Icy
Car	18	—	6
Van	2	—	—
Bus	1	—	—
Motorcycle	4	2	—
Pedal cycle	—	—	1
Total	25	2	7

Table 9

Accidents according to road and light conditions

	Dry	Wet	Icy	Total
Daylight	7	19	2	28
Dark	8	109	5	122
Total	15	128	7	150

Table 10

Fatalities according to whether the accidents were 'drink' or 'non-drink' accidents

	Pedestrian	Pedal cyclist	Motor-cyclist	Motor-cycle passenger	Driver	Other passenger	Total fatalities	Total accidents
Fatalities in accidents in which someone had been drinking	50	3	4	3	14	16	90	84
Fatalities in accidents with no evidence of drink . .	31	4	11	5	8	12	71	66

Table 11

Types of accidents

	Day (4 a.m.–10 p.m.)		Night (10 p.m.–4 a.m.)	
	Someone involved had recently been drinking alcohol	No evidence of drink	Someone involved had recently been drinking alcohol	No evidence of drink
Pedestrian and one or more vehicles . .	6	26	42	6
One vehicle only . .	3	7	10	4
Two or more vehicles (no pedestrian) . .	11	16	12	7
Total . .	20	49	64	17

Table 12

Accidents in which the evidence shows that someone had been drinking alcohol not long before the accident occurred

	People killed					
	Pedestrians	Drivers	Passengers	Motor-cyclists	Motor-cycle passengers	Pedal cyclists
Driver had been drinking . .	18	14	16	4	1	2
Motorcyclist had been drinking .	—	—	—	1	3	—
Pedal cyclist had been drinking .	—	—	—	—	—	1
Pedestrian who was killed had been drinking . .	44	—	—	—	—	—

Table 12—continued

Total people involved in accidents

Pedestrians	83
Drivers	169
Motorcyclists	28
Pedal cyclists	7

People involved who had been drinking

Pedestrians	44
Drivers	52
Motorcyclists	4
Pedal cyclists	1

Table 13

Classification of accidents

	All accidents	
	Accidents	Fatalities
Driver had been drinking alcohol	50	55
Motorcyclist had been drinking alcohol	3	4
Pedal cyclist had been drinking alcohol	1	1
Other accidents	99	104
Total	150	161

Pedestrian accidents

Pedestrian had been drinking alcohol	43
Other pedestrian accidents	37
All pedestrian accidents	80

Table 14

Pedestrian fatalities by age

Age	Number of fatalities	Pedestrian killed had been drinking	Driver involved had been drinking
0–29	9	6	2
30–59	34	27	7
60 and over	38	11	9
Total	81	44	18

In some accidents, both driver and pedestrian had been drinking. The total number of pedestrian drink accidents is therefore less than (44 + 18).

Table 15

'Drink' accidents as a percentage of the total accidents

	Christmas 1959	1953–1955
Drivers (including motorcyclists and pedal cyclists*) had been drinking (%)	36	14
Pedestrians had been drinking as a percentage of total pedestrian fatalities (%)	54	13
Someone involved had been drinking (%)	56	18

* In the Christmas period, 5 out of 57 drivers who had been drinking were motorcyclists or pedal cyclists.

APPENDIX

SOME OF THE REFERENCES TO ALCOHOL GIVEN IN THE 'DRINK' ACCIDENT REPORTS

(A) **Drivers (including motorcyclists and pedal cyclists) had been drinking**

Time to the nearest hour	
early p.m.	Driver had been to a party and was merry and 'not in a fit state to drive'.
early p.m.	Driver had one drink.
1 p.m.	Deceased had probably had a number of vodkas.
2 p.m.	Driver admitted having 1 gin, 1 light ale, 1 brown ale within 1½ hours of the accident.
2 p.m.	Driver had been drinking, but 'was not drunk'.
2 p.m.	Driver had 2½ pints of beer.
2 p.m.	Driver whose vehicle hit pedestrian had 1 pint, an hour before the accident.
3 p.m.	Driver had 5 pints of beer and 4 glasses of rum.
3 p.m.	Driver had 3 pints of 'black and tan' and 5 or 6 whiskies after 2.15 p.m.
3 p.m.	Driver had 6 drinks and agreed that he was "drunk".
3 p.m.	Deceased driver appeared to be "under the influence of alcohol".
3 p.m.	Driver was at public house from 11.30 a.m. to 2 p.m.
5 p.m.	Pathological report gives 'stomach contents smelt of alcohol'.
5 p.m.	Driver's breath smelt of alcohol but there was no case for giving drink as a cause.
6 p.m.	Driver had 3 pints of beer during the previous 5 hours.
8 p.m.	Driver inebriated.
8 p.m.	Driver had been drinking in the afternoon and had just left a public house.
10 p.m.	Driver was 'under the influence, etc.'
10 p.m.	Driver had several pints of beer and admitted he was drunk.
Night	Driver had 5½ pints.
11 p.m.	Driver had been drinking at several public houses and had at least 3½ pints of beer in one of them (amount in the others not known).
11 p.m.	Post mortem report gives 'strong smell of alcohol in stomach, kidneys and cranium'.

Time to the nearest hour	
11 p.m.	Deceased driver had been drinking from 9.15 to 11.00 p.m., but his friend said he was not drunk.
11 p.m.	Deceased (2 people) were 'under the influence of drink'. They had been to several public houses. Driver had just left a public house.
11 p.m.	Deceased driver's blood alcohol was 0·023 per cent*. Other driver had 2 bottles of beer.
11 p.m.	Driver had been drinking.
11 p.m.	Deceased's father said his son 'had been drinking'.
11 p.m.	Driver had at least 1 beer.
11 p.m.	Rider had 1 drink just before 10.30 p.m.—'drink was probably the cause of the sequence of events'.
11 p.m.	Driver had 'one drink' at 10.30 p.m.
12 midnight	Deceased driver had 6 or 7 pints of beer, 1 rum and 2 whiskies within 4 hours of accident and may have had more than this. Other driver had been 'out for a drink but had not drunk very much'.
12 midnight	Driver had obviously been drinking—he had red rimmed eyes—but not sufficient to prosecute.
12 midnight	Driver had just left a club and had been drinking.
12 midnight	Driver said he just had 'just over a pint of bitter'.
1 a.m.	Driver had 3 pints between 8.30 and 9 p.m. Deceased passenger's blood alcohol 0·057 per cent.
1 a.m.	Driver had 3 small brandies. Driver had ½ pint of bitter and 1 or 2 stouts.
1 a.m.	Deceased 'had been drinking but was not drunk'.
2 a.m.	Deceased driver said to have had not more than 3 half-pints of beer—but passenger said he himself had 5 or 6 half-pints.
2 a.m.	Driver had 1 glass of beer.
2 a.m.	Deceased driver was seen to have 1 drink within 2 hours of accident.

(B) Pedestrian had been drinking

5 p.m.	Pathologist's report gives deceased pedestrian's blood alcohol as greater than 0·300 per cent.
5 p.m.	Deceased pedestrian had 8 or 9 light ales since 12.30 p.m.
9 p.m.	Deceased pedestrian's blood alcohol was 0·206 per cent.

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* For a male of body weight 11 stone a blood result of 55 mg/100 ml (i.e., 0·055%) means a minimum intake of 1½ pints of average beer, or equivalent, 0·110% = 3 pints, 0·200% = 5½ pints, 0·293% = 8 pints.

Time to the nearest hour	
10 p.m.	Deceased pedestrian's blood alcohol was 0·290 per cent. Deceased pedestrian's blood alcohol was 0·172 per cent.
10 p.m.	Deceased had been at an inn for 1½ hours before the accident.
11 p.m.	Deceased pedestrian was 'merry' at 10.35 p.m. and then had 2 more pints of beer.
11 p.m.	Deceased pedestrian had 'a lot of drink but was pretty sober when he left'.
11 p.m.	Deceased pedestrian was at public house for 2 hours.
11 p.m.	Deceased pedestrian had 3½ pints of beer and was 'under the influence of drink'.
11 p.m.	Deceased pedestrian had more than 3 pints of beer.
11 p.m.	Deceased pedestrian had 2–2½ pints of beer.
11 p.m.	Deceased pedestrian had 2 beers before 9.45 p.m. and may have had more later.
11 p.m.	Deceased pedestrian had couple of drinks after 9.30 p.m.
11 p.m.	Deceased pedestrian's blood alcohol was 0·055 per cent.
12 midnight	Deceased pedestrian had drunk 'quite a number of glasses of vodka during the evening', and was a 'little drunk' when he left the public house forty minutes before the accident.
12 midnight	Deceased pedestrian had been at a public house for 4–5 hours.
12 midnight	Deceased pedestrian's blood alcohol was 0·283 per cent.
12 midnight	Deceased pedestrian's blood alcohol was 0·235 per cent.
12 midnight	Deceased pedestrian had up to 6 bottles of beer.
12 midnight	Deceased pedestrian had 5 bottles of bitter.
12 midnight	Deceased pedestrian 'had been drinking'.
12 midnight	Deceased pedestrian 'may have been drinking'.
1 a.m.	Deceased pedestrian's blood alcohol was 0·300 per cent.
1 a.m.	Deceased pedestrian's blood alcohol was 0·300 per cent.
1 a.m.	Deceased pedestrian had 3 pints of beer.
1 a.m.	Deceased pedestrian had 2½ pints of beer.
1 a.m.	Deceased pedestrian was in a public house for more than 3 hours and said by his friend to have had about 4 drinks.
1 a.m.	Deceased pedestrian had visited several public houses and had several drinks.
2 a.m.	Deceased pedestrian said to be quite drunk. His friend said he had had 7 pints of beer.
2 a.m.	Deceased pedestrian's blood alcohol was equivalent to 3½ pints of beer.

Time to the nearest hour	
3 a.m.	Deceased pedestrian was under the influence of drink. He had been to several public houses during the evening.
3 a.m.	Deceased pedestrian had been drinking.
(C) Driver and pedestrian had been drinking	
10 p.m.	Deceased pedestrian had 3 pints of beer and 1 whisky after 8.45 p.m. Driver had 2 pints of beer since tea.
11 p.m.	Pathologist's report on deceased pedestrian gave the equivalent of 8½ pints of beer. Driver had 2 pints.
11 p.m.	Deceased pedestrian's blood alcohol was 0·24 per cent. Driver had ½ pint a half hour before the accident.
11 p.m.	Deceased pedestrian's blood alcohol was 0·190 per cent to 0·200 per cent. Driver had been drinking.
11 p.m.	Deceased pedestrian had just left a public house. Driver had 3 pints of beer and 1 bottle of brown ale during the previous two hours.
11 p.m.	Driver had 3 pints of beer. Deceased pedestrian had also been drinking.
11 p.m.	There was a strong smell of drink from driver's breath.
12 midnight	Deceased pedestrian's blood alcohol was 0·29 per cent. Driver had 5½ pints during the previous 4 hours.
12 midnight	Deceased pedestrian's blood alcohol was 0·22 per cent.
12 midnight	Deceased pedestrian had 3 or 4 half pints of beer between 10.55 and 11.30 p.m.
12 midnight	Driver had 2 bottles of beer within two hours of accident.
1 a.m.	Driver had 3 pints of beer between 9.30 and 10.30 p.m.
3 a.m.	Pedestrian was seen drinking at 8.15, 10.30, 11.30 p.m. Later he had 2 bottles of beer and 1 whisky. Pathologist's report gives "strong smell of beer from all organs and tissues". Driver had just left a club.

(60158) Wt. 2914 K.22 6/60 Hw,